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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jae-seong Shim

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EXAMINER

GRESY, ADAM

ART UNIT

PAPER NUMBER

2627

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/798,268	Applicant(s) SHIM ET AL.	
	Examiner ADAM R. GIESY	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,19,21-23,36-39,57-60,62 and 75 is/are pending in the application.
4a) Of the above claim(s) 7-18,24-35 and 63-74 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4,38,39,59 and 60 is/are allowed.
- 6) ☒ Claim(s) 1,2,6,19,21-23,36,37,57,58,62 and 75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 6, 23, and 62 are objected to because of the following informalities:

Examiner asserts that line 3 of claim 6 should read --...phase-locked loop.-- instead of "...phase locked loop." in order to maintain consistency among the claims.

Examiner asserts that line 3 of claim 23 should read --...phase-locked loop.-- instead of "...phase locked loop." in order to maintain consistency among the claims.

Examiner asserts that line 3 of claim 62 should read --...phase-locked loop.-- instead of "...phase locked loop." in order to maintain consistency among the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 75 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Examiner fails to find any support in the specification of a tail opening mark (TOM) "marks the start of the tail" as claimed in claim 75. Examiner, however, did find support in the specification for the tail opening mark as marking the closing of the tail.

Examiner will interpret “marks the start of the tail” to mean –marks the closing of the tail—as articulated in the instant specification and as recited in claim 22.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 6, 19, 21-23, 36, 37, 57, 58, 62, and 75 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanoue et al. (hereinafter Tanoue – US Pat. No. 6,657,937 B2).

Regarding claim 1, Tanoue discloses an information storage medium in which data is recorded in recording units, each of the recording units comprising: a body including user data (see Figure 4, elements labeled ‘GAP’, ‘GUARD1’, ‘VFO3’, ‘PS’ and ‘DATA’) and a first recognizer (‘PS’); and a head which is arranged in front of the body (‘HF’) and includes a second recognizer other than the first recognizer that is unique such that the second recognizer cannot be detected from any other patterns in the body (see elements ‘AM’, ‘PID4’, ‘IED4’, and ‘PA2’ in ‘HF4’ – note that address mark [see ‘AM’] is a unique violation pattern; see abstract; see also column 5, lines 32-43), wherein a number of maximum length patterns used to form the second recognizer is greater than a number of maximum length patterns used to form the first recognizer so that the second recognizer is distinguished from the first recognizer (see also column 5, lines 32-43; see also column 9, lines 12-16 – note that the address mark is 22T in

length which is longer than any other pit), and the second recognizer is disposed immediately following a pattern used for a phase-lock loop (PLL) (see Figure 4, elements 'VFO1' and 'AM' – Examiner notes that the VFO1 field is used for PLL and that the AM field follows the VFO1 field) and comprises a head closing mark, which marks a closing of the head ('PA2' - Examiner notes that the PA2 must inherently mark the closing of the head as the HF4 field is the last header field before the mirror field and the body field, shown as recording field, begin).

Regarding claim 2, Tanoue discloses an information storage medium in which data is recorded in recording units, each of the recording units comprising: a body including user data (see Figure 4, elements labeled 'GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA') and a first recognizer ('PS'); a head which is arranged in front of the body ('HF') and includes a second recognizer other than the first recognizer (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark [see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43); and a tail which is arranged behind the body (see Figure 4, elements 'PA3', 'GUARD2', and 'BUFFER') and includes a third recognizer ('PA3'); wherein a number of maximum length patterns used to form the second recognizer is greater than a number of maximum length patterns used to form the first recognizer so that the second recognizer is distinguished from the first recognizer (see also column 5, lines 32-43; see also column 9, lines 12-16 – note that the address mark is 22T in length which is longer than any other pit).

Regarding claim 6, Tanoue discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above and further that a mark or a pit with a specific length is

repeatedly recorded for a length of A number of bytes in the head for a data phase locked loop (column 5, lines 27-30).

Regarding claim 19 Tanoue disclose an information storage medium in which data is recorded in recording units, each of the recording units comprising: a body including user data, an error correction parity, and an error correction code (ECC) sync (see Figure 4, elements labeled 'GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA'; see also column 6, lines 17-23); and a head which is disposed in front of the body ('HF'), wherein the head includes a head identifying pattern which is unique such that the head identifying pattern cannot be detected from any other patterns in the body (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark [see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43), and the head identifying pattern is disposed immediately following a pattern used for a phase-lock loop (PLL) head (see Figure 4, elements 'VFO1' and 'AM' – Examiner notes that the VFO1 field is used for PLL and that the AM field follows the VFO1 field) and comprises a head closing mark, which marks a closing of the head ('PA2' - Examiner notes that the PA2 must inherently mark the closing of the head as the HF4 field is the last header field before the mirror field and the body field, shown as recording field, begin).

Regarding claim 21, Tanoue discloses all of the limitations of claim 19 as discussed in the claim 19 rejection above and further that the head closing mark comprises more patterns than a number of maximum length patterns used to form the ECC sync so that the head closing mark is distinguished from the ECC sync (Figure 4, 'PID1' and 'PA1'; see also column 6, lines 17-23).

Regarding claim 22, Tanoue discloses an information storage medium in which data is recorded in recording units, each of the recording units comprising: a body including user data, an error correction parity, and an error correction code (ECC) sync (see Figure 4, elements labeled 'GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA'; see also column 6, lines 17-23); a head which is disposed in front of the body ('HF'); and a tail which is disposed behind the body ('PA3', 'GUARD2', and 'BUFFER') and includes a tail opening mark, which marks a closing of the tail ('PA3'); wherein the head includes a head identifying pattern which is unique such that the head identifying pattern cannot be detected from any other patterns in the body (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark [see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43).

Regarding claim 23, Tanoue discloses all of the limitations of claim 19 as discussed in the claim 19 rejection above and further that a mark or a pit with a specific length is repeatedly recorded for a length of a number of bytes in the head for a data phase locked loop (column 5, lines 27-30).

Regarding claim 36, Tanoue discloses an apparatus for reproducing data recorded on a disk in recording units, each of the recording units comprising: a body including user data (see Figure 4, elements labeled 'GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA') and a first recognizer ('PS'); and a head which is disposed in front of the body ('HF') and includes a second recognizer other than the first recognizer that is unique such that the head identifying pattern cannot be detected from any other patterns in the body (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark

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[see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43), wherein a number of maximum length patterns used to form the second recognizer is greater than a number of maximum length patterns used to form the first recognizer so that the second recognizer is distinguished from the first recognizer (see also column 5, lines 32-43; see also column 9, lines 12-16 – note that the address mark is 22T in length which is longer than any other pit) and the second recognizer is disposed immediately following a pattern used for a phase-lock loop (PLL) (see Figure 4, elements 'VFO1' and 'AM' – Examiner notes that the VFO1 field is used for PLL and that the AM field follows the VFO1 field) and comprises a head closing mark, which marks a closing of the head ('PA2' - Examiner notes that the PA2 must inherently mark the closing of the head as the HF4 field is the last header field before the mirror field and the body field, shown as recording field, begin), the apparatus comprising: a pickup which detects a radio frequency signal from the disk (Figure 16, element 5); and a controller which controls the pickup and distinguishes the body from the head based on the first recognizer and the second recognizer (Figure 17, element 68).

Regarding claim 37, Tanoue discloses an apparatus for reproducing data recorded on a disk in recording units, each of the recording units comprising: a body including user data (see Figure 4, elements labeled 'GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA') and a first recognizer ('PS'); a head which is disposed in front of the body ('HF') and includes a second recognizer other than the first recognizer (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark [see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43); and a tail which is

arranged behind the body ('PA3', 'GUARD2', and 'BUFFER') and includes a third recognizer ('PA3'), wherein a number of maximum length patterns used to form the second recognizer is greater than a number of maximum length patterns used to form the first recognizer so that the second recognizer is distinguished from the first recognizer (see also column 5, lines 32-43; see also column 9, lines 12-16 – note that the address mark is 22T in length which is longer than any other pit), the apparatus comprising: a pickup which detects a radio frequency signal from the disk (Figure 16, element 5); and a controller which controls the pickup and distinguishes the body from the head based on the first recognizer and the second recognizer (Figure 17, element 68).

Regarding claim 57, Tanoue discloses a method of recording data on a recordable information storage medium, the method comprising: recording data in recording units (see Figure 4 – note the bit and byte units on the right side of the figure), wherein each of the recording units comprises: a body including user data ('GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA') and a first recognizer ('PS'); and a head which is disposed in front of the body ('HF') and includes a second recognizer other than the first recognizer that is unique such that the second recognizer cannot be detected from any other patterns in the body (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark [see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43), wherein a number of maximum length patterns used to form the second recognizer is greater than a number of maximum length patterns used to form the first recognizer so that the second recognizer is distinguishable from the first recognizer (see

also column 5, lines 32-43; see also column 9, lines 12-16 – note that the address mark is 22T in length which is longer than any other pit), and the second recognizer is disposed immediately following a pattern used for a phase-lock loop (PLL) (see Figure 4, elements 'VFO1' and 'AM' – Examiner notes that the VFO1 field is used for PLL and that the AM field follows the VFO1 field) and comprises a head closing mark, which marks a closing of the head ('PA2' - Examiner notes that the PA2 must inherently mark the closing of the head as the HF4 field is the last header field before the mirror field and the body field, shown as recording field, begin).

Regarding claim 58, Tanoue discloses a method of recording data on a recordable information storage medium, the method comprising: recording data in recording units (see Figure 4 – note the bit and byte units on the right side of the figure), wherein each of the recording units comprises: a body including user data ('GAP', 'GUARD1', 'VFO3', 'PS' and 'DATA') and a first recognizer ('PS'); a head which is disposed in front of the body ('HF') and includes a second recognizer other than the first recognizer (see elements 'AM', 'PID4', 'IED4', and 'PA2' in 'HF4' – note that address mark [see 'AM'] is a unique violation pattern; see abstract; see also column 5, lines 32-43); a tail which is disposed behind the body ('PA3', 'GUARD2', and 'BUFFER') and includes a third recognizer ('PA3'), and wherein a number of maximum length patterns used to form the second recognizer is greater than a number of maximum length patterns used to form the first recognizer so that the second recognizer is distinguishable from the first recognizer (see also column 5, lines 32-43; see also

column 9, lines 12-16 – note that the address mark is 22T in length which is longer than any other pit).

Regarding claim 62, Tanoue discloses all of the limitations of claim 57 as discussed in the claim 57 rejection above and further that a mark or a pit with a specific length is repeatedly recorded for a length of A number of bytes in the head for a data phase locked loop (column 5, lines 27-30).

Regarding claim 75, Tanoue discloses all of the limitations of claim 57 as discussed in the claim 57 rejection above and further that the user data is recorded in units of ECC blocks the first recognizer is an ECC sync (see column 6, lines 17-23), the second recognizer is a head closing mark, which marks an end of the head (Figure 4, 'PA2' - Examiner notes that the PA2 must inherently mark the closing of the head as the HF4 field is the last header field before the mirror field and the body field, shown as recording field, begin), and the third recognizer is a tail opening mark, which marks a start of the tail (see Figure 4, 'PA3').

Allowable Subject Matter

6. The following is a statement of reasons for the indication of allowable subject matter:

Claims 3, 4, 38, 39, 59, and 60 are allowed over the prior art of record.

Please see reasons for indicating allowable subject matter in the previous Office Action, mailed on 7/27/2007.

Response to Arguments

7. Applicant's arguments, see the Remarks, filed 3/11/2008, with respect to the rejection(s) of claim(s) 1, 2, 19, 36, 37, 57, and 58 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a different interpretation of the previously applied reference.

Furthermore, Applicant argues, on page 14 of the Remarks, that Tanoue does not disclose a separate tail field. Examiner notes that a separate tail field has not been claimed. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., 'separate' tail section, and that a sector has a tail section behind the body) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM R. GIESY whose telephone number is (571)272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 6/10/2008

/Adam R. Giesy/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627